

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (previously presented) A method for preparation of a modified host cell comprising:
 - a) transfecting a host cell with at least one compound of interest to which a label is covalently coupled and
 - b) isolating the transfected host cell;
wherein the label provides to the host cell a non-inheritable trait.
2. (original) A method according to claim 1, wherein isolation of the transfected host cell is established by direct separation of the host cells containing said label from host cells not containing said label.
3. (previously presented) A method according to claims 1, wherein isolation of the transfected host cell is established by using means that can distinguish and separate said transfected host cell containing said label from non-transfected host cells.
4. (previously presented) A method according to claim 1, wherein the label is selected from the group consisting of a fluorescent label, a luminescent label, a chemoluminescent label, a magnetic label, an antigenic label, an enzymatic label, and a radioactive label.

5. (original) A method according to claim 3, wherein the label is a fluorescent label and the means for detection is a Fluorescent Activated Cell Sorter (FACS).

6. (previously presented) A method according to claim 1, wherein the transfected host cell of step b) is subsequently cultured.

7. (previously presented) A method according to claim 1, wherein the compound of interest is a compound able to change permanently or a transiently metabolic property of the host cell.

8. (previously presented) A method according to claim 1, wherein the compound of interest is selected from the group consisting of polynucleotides, proteins, and metabolites.

9. (previously presented) A method according to claim 1, wherein the modified host cell is a prokaryotic cell, a eukaryotic cell, a mammalian cell or a plant cell.

10. (previously presented) A method for preparation of a desired compound by a transformed host cell comprising:

- a) transfected a host with at least one polynucleotide involved in production of said desired compound and which is covalently coupled to a label which provides to the host cell a non-inheritable trait,
- b) isolating the transfected host,

- c) culturing the transfected host under proliferating conditions,
- d) culturing the transfected host under conditions wherein the desired compound is produced, and
- e) isolating the desired compound from the culture broth.

11. (previously presented) A method according to claim 10, wherein the polynucleotide is selected from the group consisting of DNA, RNA, short hairpin RNA, non-coding RNA, LNA, HNA, and PNA.

12. (previously presented) A method according to claim 10, wherein the polynucleotide modifies the titer, stability, isolation and/or activity of said desired compound.

13. (previously presented) A method according to claim 10, wherein the desired compound is a protein.

14. (previously presented) A method according to claim 10, wherein the desired compound is an enzyme.

15. (previously presented) A method for preparation of a desired metabolite by a transformed host cell comprising:

- a) transfecting a host cell with at least one polynucleotide involved in production of said desired metabolite and which is covalently coupled to a label which provides to the host cell a non-inheritable trait,

- b) isolating the transfected host cell,
- c) culturing the transfected host cell under proliferating conditions,
- d) culturing the transfected host cell under conditions wherein the desired metabolite is produced, and
- e) isolating the desired metabolite from the culture broth.

16. (previously presented) A method according to claim 15, wherein the polynucleotide is selected from the group consisting of DNA, RNA, short hairpin RNA, non-coding RNA, LNA, HNA, and PNA.

17. (previously presented) A method according to claim 15, wherein the desired metabolite is a primary metabolite.

18. (previously presented) A method according to claim 15, wherein the desired metabolite is an amino acid, a steroid or a nucleotide.

19. (previously presented) A method according to claim 15, wherein the desired metabolite is a secondary metabolite.

20. (original) A method according to claim 19, wherein the desired secondary metabolite is an antibiotic, a vitamin, an anti-infective, a macrolide, a polyketide, a pheromone, an alkaloid or a drug.

21. (previously presented) A method for preparation of a desired biomass by a transformed host cell comprising:

- a) transfected a host cell with at least one polynucleotide involved in production of said desired biomass and which is covalently coupled to a label which provides to the host cell a non-inheritable trait,
- b) isolating the transfected host,
- c) culturing the transfected host under proliferating conditions,
- d) culturing the transfected host under conditions wherein the desired biomass is produced, and
- e) isolating the desired biomass.

22. (previously presented) A method according to claim 21, wherein the polynucleotide is selected from the group consisting of DNA, RNA, short hairpin RNA, non-coding RNA, LNA, HNA, and PNA.

23. (previously presented) A method according to claim 21, wherein the desired biomass is a yeast cell.

24. (previously presented) A method according to claim 21, wherein the desired biomass comprises a biocatalyst.

25. (previously presented) A method according to claim 21, wherein the desired biomass comprises screenable cells for drug discovery.

26. (previously presented) A polynucleotide for use in a method according to claim 15, which modifies the cellular metabolism via redirecting metabolic fluxes towards said metabolite.